

-continued

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 1 5 10 15

We claim:

1. A humanized monoclonal anti-Calcitonin Gene-Related Peptide (CGRP) antagonist antibody, comprising:

two human IgG heavy chains, each heavy chain comprising three complementarity determining regions (CDRs) and four framework regions, wherein portions of the two heavy chains together form an Fc region; and two light chains, each light chain comprising three CDRs and four framework regions;

wherein the CDRs impart to the antibody specific binding to a CGRP consisting of amino acid residues 1 to 37 of SEQ ID NO:15 or SEQ ID NO: 43, and wherein the antibody binds to the CGRP with a binding affinity (K_D) of about 10 nM or less as measured by surface plasmon resonance at 37° C.

2. The antibody of claim 1, wherein the binding affinity is about 1 nM or less, about 500 pM or less, or about 100 pM or less as measured by surface plasmon resonance at 37° C.

3. The antibody of claim 1, wherein constant regions of the IgG heavy chains are IgG1 constant regions.

4. The antibody of claim 3, wherein the CDRs impart to the antibody specific binding to a fragment of the CGRP comprising amino acid residues 8 to 37 of SEQ ID NO:15.

5. The antibody of claim 3, wherein the CDRs of the humanized monoclonal antibody are derived from mouse, rat, or rabbit CDRs.

6. The antibody of claim 3, wherein a constant region of at least one IgG heavy chain comprises a mutation in an oligosaccharide attachment amino acid residue that is part of an N-glycosylation recognition sequence in the constant region.

7. The antibody of claim 1, wherein constant regions of the IgG heavy chains are IgG2 constant regions.

8. The antibody of claim 7, wherein the CDRs impart to the antibody specific binding to a fragment of the CGRP comprising amino acid residues 8 to 37 of SEQ ID NO:15.

9. The antibody of claim 7, wherein the CDRs impart to the antibody specific binding to a fragment of the CGRP comprising amino acid residues 33 to 37 of SEQ ID NO:15.

10. The antibody of claim 7, wherein the CDRs of the humanized monoclonal antibody are derived from mouse, rat, or rabbit CDRs.

11. The antibody of claim 7, wherein a constant region of at least one IgG heavy chain comprises a mutation in an oligosaccharide attachment amino acid residue that is part of an N-glycosylation recognition sequence in the constant region.

12. The antibody of claim 1, wherein constant regions of the IgG heavy chains are IgG4 constant regions.

13. The antibody of claim 12, wherein the CDRs impart to the antibody specific binding to a fragment of the CGRP comprising amino acid residues 8 to 37 of SEQ ID NO:15.

14. The antibody of claim 12, wherein the CDRs of the humanized monoclonal antibody are derived from mouse, rat, or rabbit CDRs.

15. The antibody of claim 12, wherein a constant region of the antibody comprises a mutation in an oligosaccharide attachment amino acid residue that is part of an N-glycosylation recognition sequence in the constant region.

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